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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,779	01/29/2001	Tao Chen	PA000467	1558

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EXAMINER	
DEPPE, BETSY LEE	

ART UNIT	PAPER NUMBER
2634	7

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/772,779	CHEN ET AL.	
	Examiner	Art Unit	
	Betsy L. Deppe	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-34 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,5-7,9-12,15-18,22,23,25,26,28,29 and 31-33 is/are rejected.

7)☒ Claim(s) 2-4,8,13,14,19-21,24,27,30 and 34 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 29 January 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the Examiner suggests changing "pilot signal search window threshold" in the specification (such as on page 7, line 25 and page 7, line 26 – page 8, line 1) to "pilot signal ***energy*** threshold" for clarification since the threshold is used for comparison with accumulated energy (see page 7, line 24) and the result of the comparison does not affect a "search window" as suggested by the phrase "search window threshold." Appropriate correction is required.

Claim Objections

2. The claims are objected to because of the following informalities:

a. in claims 2-6, 26, 27, 33 and 34, the Examiner suggests changing "search window threshold" to "***energy*** threshold" for clarification since the threshold is used for comparison with accumulated energy (see page 7, line 24) and the result of the comparison does not affect a "search window" as suggested by the phrase "search window threshold";

b. in claim 3, line 6 and claim 4, line 2, the Examiner suggests changing "more or less fingers" to "***a different number of available*** fingers" for clarification;

c. in claim 4, line 3, "adjusting said" should be "adjusting ***of*** said";

d. in claim 5, line 5, "a" should be inserted after "comparing";

e. in claim 5, line 6, "pilot signal" should be inserted after "said adjusted";

f. in claim 6, line 4, "pilot signal" should be inserted after "adjusted" and "step" should be inserted after "comparing";

g. in claim 9, line 7, "a unlock" should be "***an*** unlock";

h. in claim 14, line 6, "a un-combine" should be "***an*** un-combine";

i. in claim 19, line 10, "suitable" should be inserted after "and";

j. in claim 21, line 11, "suitable" should be inserted after "and";

k. in claim 25, line 3, "said communication system" should be "said ***apparatus***";

l. in claim 29, line 5, "either a" should be "either ***in*** a";

m. in claim 29, line 6, "a unlock" should be "***an*** unlock";

n. in claim 29, line 9, "the" should be inserted after "whether";

o. in claim 31, line 6, "a un-combine" should be "***an*** un-combine";

p. in claim 31, line 10, "the" should be inserted after "whether";

q. in claim 32, line 11, "suitable" should be inserted before "for communication";

r. in claim 33, line 8, "a" should be inserted after "comparing"; and

s. in claim 33, line 9, "pilot signal" should be inserted after "adjusted";

t. in claim 34, line 3, "said communication system" should be "said ***apparatus***".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 25, 26, 28, and 32 are rejected under 112, 1st paragraph as being a single means claim with undue breadth. The means recitation does not appear in combination with another recited element of means. See MPEP §2164.08(a).

6. Claims 5-7, 9-12, 15-18, 22, 23, 29, 31, and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. With regard to claims 5-7, it is unclear what is correlated "with said received pilot signal" in claim 5, line 3-4.

8. In claim 9, line 6 and claim 14, line 5, it is unclear what is meant by "more or less of said least assigned finger."

9. In claim 10, line 2 and claim 15, line 2, it is unclear what is meant by "at least said least assigned finger."

10. In claim 11, it is unclear from "lock/unlock condition" whether the method is determining the number of fingers that are locked or whether the method is determining the number of fingers that are unlocked or both.

11. In claim 12, "lock/unlock condition" is confusing. For example, it is unclear whether the method is determining the time period of locking for each of the number of fingers that are locked or for some of the fingers that are locked. Or whether the method is determining the time period of unlocking for each of the number of fingers that are unlocked or for some of the fingers that are unlocked.

12. In claims 16 and 22, it is unclear from "combine/uncombine condition" whether the method is determining the number of fingers that are combined or whether the method is determining the number of fingers that are uncombined or both.

13. In claims 17 and 23, "combine/uncombine condition" is confusing. For example, it is unclear whether the method is determining the time period of combining for each of the number of fingers that are combined or for some of the fingers that are combined. Or whether the method is determining the time period of uncombining for each of the number of fingers that are uncombined or for some of the fingers that are uncombined.

14. In claim 18, it is unclear from "assign/un-assign condition" whether the method is determining the number of fingers that are assigned or whether the method is determining the number of fingers that are unassigned or both.

15. In claims 29 and 31, lines 3-4, it is unclear what is correlated "with said at least one received signal" on lines 3-4.

16. In claims 29 and 31, it is unclear whether "said least finger" on lines 5 and 6 of claim 29 and on lines 5 and 6-7 of claim 31 is referring to "at least a finger resource" on line 3 of the respective claims or one of the available fingers in claim 25, line 5.

17. In claim 33, line 6, it is unclear what is correlated with "a received pilot signal."

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

19. Claim 1 and 25 are rejected under 35 U.S.C. 102(a) as being anticipated by Saints et al. (US Patent No. 6,097,972). (See column 9, line 59 - column 10, line 8)

20. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al. (US Patent No. 6,208,699). (See column 13, lines 25-27)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

22. Claims 1, 18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadri (US Patent No. 6,621,808 B1).

23. With regard to claims 1 and 25, Sadri discloses determining a number of used/unavailable fingers and adjusting a threshold based on the number of used/unavailable fingers. (See column 7, line 65 – column 8, line 8) Since the total number of fingers in the RAKE receiver is fixed and equals the sum of the used/unavailable and available fingers, it would have been an obvious matter of design choice whether to determine the number of used/unavailable finger or the number of available fingers based on which number is more readily available or easier to determine.

24. With regard to claim 18, Sadri discloses the claimed invention except for the step of determining a number of fingers in an assign/un-assign condition and determining the number of available fingers based on the number of fingers in the assign/un-assign condition. Whether a finger is in an assign or un-assign condition corresponds to whether the finger is used/unavailable or available, respectively. Therefore, it would have been an obvious matter of design choice to one of ordinary skill in the art at the time the invention was made to determine the number of fingers in a lock/unlock

condition and determining the number of available fingers based on the number of fingers in the lock/unlock condition. Since there are numerous status conditions that reflect the used/unavailability or availability of fingers in a RAKE receiver, it would have been an obvious matter of design choice to one of ordinary skill in the art at the time the invention was made to select the status condition based on factors such as whether the status is readily available or easily determined.

25. Claims 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadri as applied to claim 1 above, and further in view of Eberhardt et al. (US Patent No. 5,754,583).

26. With regard to claim 11, Sadri discloses the claimed invention except for the step of determining a number of fingers in a lock/unlock condition and determining the number of available fingers based on the number of fingers in the lock/unlock condition. Whether a finger is in a lock or unlock condition corresponds to whether the finger is used/unavailable or available, respectively. (See Eberhardt, column 2, lines 61-63) Therefore, it would have been an obvious matter of design choice to one of ordinary skill in the art at the time the invention was made to determine the number of fingers in a lock/unlock condition and determining the number of available fingers based on the number of fingers in the lock/unlock condition. Since there are numerous status conditions that reflect the used/unavailability or availability of fingers in a RAKE receiver, it would have been an obvious matter of design choice to one of ordinary skill

in the art at the time the invention was made to select the status condition based on factors such as whether the status is readily available or easily determined.

27. With regard to claim 16, Sadri discloses the claimed invention except for the step of determining a number of fingers in a combine/uncombine condition and determining the number of available fingers based on the number of fingers in the combine/uncombine condition. Whether a finger is in a combine or uncombine condition corresponds to whether the finger is used/unavailable or available, respectively. (See Eberhardt, column 2, lines 61-63) Therefore, it would have been an obvious matter of design choice to one of ordinary skill in the art at the time to determine a number of fingers in a combine/uncombine condition and determining the number of available fingers based on the number of fingers in the combine/uncombine condition. Since there are numerous status conditions that reflect the used/unavailability or availability of fingers in a RAKE receiver, it would have been an obvious matter of design choice to one of ordinary skill in the art at the time the invention was made to select the status condition based on factors such as whether the status is readily available or easily determined.

Allowable Subject Matter

28. Claims 2-4, 8, 13, 14, 19-21, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

29. Claim 34 is allowable.

30. The following is a statement of reasons for the indication of allowable subject matter: claims 2-4, 8, 13, 14, 19-21, and 24 are allowable since prior art of record does not teach or suggests in combination a method comprised of changing the type of threshold as recited in claims 2, 8, 13, 19 and 20, respectively, based on the number of available fingers. Furthermore, claim 34 is allowable since prior art of record does not teach or suggests in combination an apparatus comprised of a controller that adjusts a pilot signal energy threshold based on the number of available fingers.

Conclusion

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (703) 305-4960. The examiner can normally be reached on Monday, Tuesday and Thursday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Betsy L. Deppe
Primary Examiner
Art Unit 2634